

SUPPORT FOR THE AMENDMENTS

The present amendment amends claims 2, 14, 21 and 22. Support for the amendment to claims 21 and 22 is found at specification page 2, line 3, page 8, Table 1, Silica 1 and 2, page 9, Table 2, Silica 1 and 2, pages 22 and 23, Example 4, page 24, Table 6, Silica 1. It is believed that these amendments have not resulted in the introduction of new matter.

REMARKS

Claims 2, 6, 7, 11-14 and 18-22 are currently pending in the present application. Claims 22, 14, 21 and 22 have been amended, by the present amendment. Claims 14 and 22 stand withdrawn from consideration by the Examiner as being directed to a non-elected invention.

Applicants wish to extend their appreciation to Examiner Nerangis for withdrawing the rejection of claims 2, 6, 9, 13 and 18-21 under 35 U.S.C. § 102(b) as being anticipated over Frahn (U.S. 2002/0077381).

The rejection of claims 2, 6, 7, 11-13 and 18-21 under 35 U.S.C. § 103(a) as being obvious over Bock (U.S. Patent 6,020,419) in view of Hartmann (U.S. Patent 5,959,005) and Ettlinger (U.S. Patent 6,022,404) is respectfully traversed.

Amended claim 2 is directed to a lacquer composition comprising: (1) 20-80 wt. % of a polymer composition comprising polyesters, polyacrylates, polymethacrylates, mixtures or copolymers thereof; (2) 0.5-25 wt. % of a silanized, *structurally modified* pyrogenic silica having attached to the surface thereof *hexadecylsilyl* groups; (3) 0-80 wt. % of one or more solvents; and (4) 0-10 wt. % of an additive.

Bock describes a conventional (i.e., *non-structurally modified*) pyrogenic silica that has been surface-modified with hydrophobic groups, such as hexamethyldisilazane (Aerosil® R 812), octylsilyl groups (Aerosil® R 805) and dimethylsilyl groups (Aerosil® R 972) (See e.g., column 2, lines 50-67, column 3, lines 1-3 and 28-33 and 52-67, column 4, lines 8-18, column 7, lines 24-26 and 49-50, claims 1-6).

Hartmann describes producing structurally modified silica by a mechanical process using ball milling, and that the structurally modified silica may then be subjected to optional air jet milling (See e.g., column 1, lines 35-39, column 2, lines 18-20, claims 2 and 3).

Ettlinger describes a pyrogenic mixed oxide containing two or more metal oxides selected from a plethora of various metal oxides including SiO₂, Al₂O₃, TiO₂, ZrO₂, Fe₂O₃, Nb₂O₅, V₂O₅, WO₃, SnO₂ and GeO₂, which has been surface-modified with one or more compounds selected from the

tremendously large genus of groups (a) to (m) (See e.g., abstract, columns 1-3, claim 1). Group (c) describes a surface-modifying compound of formula $X_3Si(C_nH_{2n+1})$, wherein X is Cl or Br, and n is 1-20 (See e.g., column 1, lines 35-37). Ettlinger describes and exemplifies that the *particularly preferred* surface-modifying compounds are hexamethyldisilazane, trimethoxyoctylsilane, dimethylpolysiloxane and trimethoxypropylsilane (See e.g., Table 2).

The mere fact that a claimed species is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. See e.g., *In re Baird*, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994); and *In re Jones*, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992). Any teaching or suggestion in the cited reference of a preferred species or subgenus that is significantly different in structure from the claimed species may weigh against a determination of obviousness to select the claimed species. See e.g., *In re Baird*, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). A *prima facie* case of obviousness requires that the prior art provide a skilled artisan with sufficient motivation and guidance to arrive at the claimed compounds. See e.g., *Takeda v. Alphapharm*, 83 USPQ2d 1169, 1174 (Fed. Cir. 2007).

Contrary to the Official Action, Ettlinger fails to provide a skilled artisan with sufficient motivation and guidance to *particularly select* the claimed hexadecylsilyl surface modifying group from either the *tremendously large genus* of groups (a) to (m), or the *particularly preferred* surface-modifying compounds (e.g., hexamethyldisilazane, trimethoxyoctylsilane, dimethylpolysiloxane and trimethoxypropylsilane), described and exemplified in Ettlinger for surface modifying the pyrogenic silica of Bock and/or the structurally modified silica of Hartmann.

Accordingly, a skilled artisan would not have arrived at the claimed structurally modified pyrogenic silica having hexadecylsily groups attached to the surface thereof, based on the disclosures of Bock, Hartmann and Ettlinger, *absent impermissible hindsight reconstruction*, thereby precluding a *prima facie* case of obviousness.

Assuming *arguendo* that sufficient motivation and guidance is considered to have been provided by Bock, Hartmann and Ettlinger to direct a skilled artisan to arrive at the claimed

structurally modified pyrogenic silica having hexadecylsily groups attached to the surface thereof, which is clearly not the case, such a case of obviousness is rebutted by a showing of superior properties.

As discussed in the present specification and shown by the comparative experimental data presented in Table 3 therein, Applicants have discovered that the *structurally modified* pyrogenic silica of Examples S1 and S2, which have *hexadecylsily* groups attached to the surface thereof in accordance with the present invention, exhibited superior properties with respect to improved scratch resistance and residual gloss without undesirable orange peel, as compared to the inferior properties exhibited by: (A) the *non*-structurally modified pyrogenic silica of Comparative Example S1, which has *hexadecylsily* groups attached to the surface thereof; (B) the *non*-structurally modified pyrogenic silica of Comparative Example S2, which has *octylsily* groups attached to the surface thereof; (C) the structurally modified pyrogenic silica of Examples S3 and S4, which have *octylsily* groups attached to the surface thereof; (D) the *non*-structurally modified pyrogenic silica of Comparative Examples S3 and S4, which have *dimethylsilyl* groups attached to the surface thereof; and (E) the structurally modified pyrogenic silica of Examples S5-S8, which have *dimethylsilyl* groups attached to the surface thereof.

Bock, Hartmann and Ettlinger, when considered alone or in combination, fail to recognize that superior properties are achieved with the claimed structurally modified pyrogenic silica having hexadecylsily groups attached to the surface thereof in accordance with the present invention.

Withdrawal of this ground of rejection is respectfully requested.

The rejection of claims 2, 6, 7, 11-13 and 18-21 under 35 U.S.C. § 112, first paragraph (written description), is obviated by amendment.

The originally filed specification is alleged as failing to provide adequate written description for recitations of the silanized, structurally modified pyrogenic silica having a tamped density of 123-322 g/L (claims 2 and 14), and 146-322 g/L (claims 21 and 22).

Claims 2 and 14 have been amended to remove recitations of tamped density therefrom. In addition, claims 21 and 22 have been amended to recite the narrower tamped density limitation “wherein said silanized, structurally modified pyrogenic silica has a tamped density of 123-146 g/L.”

Pursuant to *In re Wertheim*, 541 F.2d 257, 265 (1976), the exact terms recited in the claimed invention need not be used *in ipsius verbis* or *in haec verba* in order to satisfy the written description requirement of 35 U.S.C. § 112, first paragraph. See also MPEP §§ 1302.01 and 2163.05(III). What is required is that the claimed invention must have been described with sufficient particularity such that a skilled artisan would recognize that the Applicants had possession of the claimed invention when the application was filed. See 35 U.S.C. § 112, first paragraph, and MPEP § 706.03(c).

With respect to claims 21 and 22, the originally filed specification explicitly discloses and exemplifies silanized, structurally modified pyrogenic silica having attached to the surface thereof hexadecylsilyl groups in accordance with the present invention having a tamped density of 123-146 g/L (See e.g., page 2, line 3, page 8, Table 1, Silica 1 and 2, page 9, Table 2, Silica 1 and 2, pages 22 and 23, Example 4, page 24, Table 6, Silica 1). Applicants respectfully submit that such a recitation and disclosure, intrinsically and inherently encompasses silanized, structurally modified pyrogenic silica having attached to the surface thereof hexadecylsilyl groups in accordance with the present invention having a tamped density of 123-146 g/L (claims 21 and 22), as presently claimed. Applicants respectfully submit that a skilled artisan would immediately recognize that adequate support for the presently claimed invention has clearly been provided by the express, implicit and inherent disclosure set forth in the originally filed specification, as evidenced hereinabove. Since the specification describes the claimed invention in sufficient detail such that a skilled artisan would reasonably conclude that the inventors had possession of the claimed invention at the time of filing, recitations of silanized, structurally modified pyrogenic silica having attached to the surface thereof hexadecylsilyl groups in accordance with the present invention having a tamped density of 123-146 g/L (claims 21 and 22), as presently claimed, has not resulted in the introduction of new matter.

Withdrawal of this ground of rejection is respectfully requested.

Applicants wish to direct the Examiner's attention the enclosed corresponding granted
European Patent EP 1539890.

In conclusion, Applicants submit that the present application is now in condition for allowance
and notification to this effect is earnestly solicited.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "David P. Stitzel", written over a horizontal line.

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